

4



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,195	02/16/2001	David J. Gemmell	MCS-067-00	1755

27662 7590 01/06/2005
LYON & HARR, LLP
300 ESPLANADE DRIVE, SUITE 800
OXNARD, CA 93036

EXAMINER

JACOBS, LASHONDA T

ART UNIT	PAPER NUMBER
----------	--------------

2157

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,195

Applicant(s)

GEMMELL, DAVID J.

Examiner

LaShonda T Jacobs

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is in response to Applicant's Amendment and Request for Reconsideration filed on August 25, 2004. Claim 17 has been cancelled and claims 1, 18, 21, 25, 27, 28, 30, 33 and 34 have been amended. Claims 1-16 and 18- 34 are presented for further examination.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16, 18-27 and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tillman et al (hereinafter, "Tillman", 6,496,980) in view of Kim.

As per claim 1, Tillman discloses a computer-implemented process for obtaining progressively higher quality versions of an audio and/or video program over a client-server based network, comprising a client computer performing the process actions of:

- requesting a base quality version of the program from a server over the network, wherein the base quality version of the program comprises at least a layer data of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21);

Art Unit: 2157

- receiving and caching the requested layer data associated with the base quality version of the program (col. 7, lines 36-50);
- requesting at least one enhancement layer of the layered unicast from the server over the network (col. 7, lines 36-50, col. 8, lines 13-16 and col. 9, lines 11-20);
- receiving and caching the requested enhancement layer data (col. 9, lines 11-20, lines 58-67 and col. 10, lines 1-7); and
- combining the requested enhancement layer data with the previously cached layer data associated with the base quality version of the program as it is received to produce a higher quality version of the program (col. 9, lines 11-20 and lines 44-57).

However, Tillman does not explicitly disclose:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network.

Kim discloses a scalable audio coding/decoding method and apparatus including:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network

comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 2, lines 57-67, col. 3, lines 64-67, col. 4, lines 1-30, col. 6, lines, col. 9, lines 35-67, col. 10, lines 1-4, lines 56-67 and col. 11, lines 1-13).

Given the teaching of Kim, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman by including a scalable audio coding/decoding method to allow users to request many layers of audio/video data without exceeding the available bandwidth in order to satisfy the users' request and to provide a good audio quality bit streams by combining information for bit rates of various layers in a bit stream without being overlapped.

As per claim 2, Tillman further discloses:

- rendering the base quality version of the program as the requested data is received and presenting it to the user (col. 9, lines 11-20 and lines 44-57).

As per claim 3, Tillman further discloses:

- determining if the user directs that the presentation of the base quality version of the program be terminated (col. 10, lines 57-67 and col. 11, lines 15); and
- terminating the presentation of the base quality version of the program to the user (col. 10, lines 57-67 and col. 11, lines 15).

As per claim 4, Tillman discloses:

Art Unit: 2157

- wherein the process action of terminating the presentation comprises the action of terminating the incoming data stream associated with the requested base quality version of the program (col. 10, lines 57-67 and col. 11, lines 15).

As per claim 5, Tillman discloses:

- wherein the process action of terminating the presentation comprises the actions of stopping the rendering of the base quality version of the program, while continuing to receive and cache the incoming data stream associated with the requested base quality version of the program (col. 10, lines 57-67 and col. 11, lines 15).

As per claim 6, Tillman further discloses:

- a process action of rendering the higher quality version of the program from the combined layer data and presenting it to the user (col. 9, lines 11-20 and lines 44-57).

As per claim 7, Tillman further discloses:

- determining if the user directs that the presentation of the higher quality version of the program be terminated (col. 10, lines 57-67 and col. 11, lines 15); and
- terminating the presentation of the higher quality version of the program to the user (col. 10, lines 57-67 and col. 11, lines 15).

As per claim 8, Tillman discloses:

- wherein the process action of terminating the presentation comprises the action of terminating the incoming data stream associated with the requested higher quality version of the program (col. 10, lines 57-67 and col. 11, lines 15).

As per claim 9, Tillman discloses:

Art Unit: 2157

- wherein the process action of terminating the presentation comprises the actions of stopping the rendering of the higher quality version of the program, while continuing to receive and cache the incoming data stream associated with the requested higher quality version of the program (col. 10, lines 57-67 and col. 11, lines 15).

As per claim 10, Tillman discloses:

- wherein the process actions of requesting at least one enhancement layer, receiving and caching the requested enhancement layer data and combining the requested enhancement layer data with the previously cached layer data associated with the base quality version of the program as it is received to produce said higher quality version of the program, are performed only when a user directs the client to provide a higher quality version of the program in comparison to the base quality version (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

As per claim 11, Tillman discloses:

- wherein the process actions of requesting at least one enhancement layer, receiving and caching the requested enhancement layer data and combining the requested enhancement layer data with the previously cached layer data associated with the base quality version of the program as it is received to produce said higher quality version of the program, are performed automatically once all the requested layer data associated with the base quality version of the program has been received and cached (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

As per claim 12, Tillman further discloses:

Art Unit: 2157

- requesting at least one additional enhancement layer of the layered unicast from the server over the network (col. 7, lines 36-50, col. 8, lines 13-16 and col. 9, lines 11-20);
- receiving and caching the requested additional enhancement layer data (col. 9, lines 11-20, lines 58-67 and col. 10, lines 1-7); and
- combining the requested additional enhancement layer data with the previously cached layer data associated with the base and higher quality versions of the program as it is received to produce an enhanced higher quality version of the program (col. 9, lines 11-20 and lines 44-57).

As per claim 13, Tillman further discloses:

- ascertaining whether the server has any remaining enhancement layers associated with the program available (col. 10, lines 43-56); and
- whenever it is ascertained that the server has at least one remaining enhancement layer associated with the program (col. 10, lines 43-56),
- requesting at least one additional enhancement layer of the layered unicast from the server over the network (col. 7, lines 36-50, col. 8, lines 13-16 and col. 9, lines 11-20),
- receiving and caching the requested additional enhancement layer data (col. 9, lines 11-20, lines 58-67 and col. 10, lines 1-7), and
- combining the requested additional enhancement layer data with the previously cached layer data associated with the base and higher quality versions of the program as it is received to produce an enhanced higher quality version of the program (col. 9, lines 11-20 and lines 44-57).

As per claim 14, Tillman discloses:

Art Unit: 2157

- wherein the process actions of requesting at least one additional enhancement layer, receiving and caching the requested additional enhancement layer data and combining the requested additional enhancement layer data with the previously cached layer data associated with the base and higher quality versions of the program to produce said enhanced higher quality version of the program, are performed only when a user directs the client to provide the enhanced higher quality version of the program (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

As per claim 15, Tillman discloses:

- wherein the process actions of requesting at least one additional enhancement layer, receiving and caching the requested additional enhancement layer data and combining the requested additional enhancement layer data with the previously cached layer data associated with the base and higher quality versions of the program to produce said enhanced higher quality version of the program, are performed automatically once all the requested layer data associated with the higher quality version of the program has been received and cached (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

As per claim 16, Tillman further discloses:

- informing the user that an enhanced higher quality version of the program cannot be provided whenever it is ascertained that the server does not have any remaining enhancement layers associated with the program available (col. 10, lines 43-56).

As per claim 18, Tillman discloses:

- wherein the process action of requesting at least one enhancement layer, comprises the action of requesting as many enhancement layers, in the order of their position in the

Art Unit: 2157

hierarchy starting with the layer next higher in the hierarchy from the highest level layer requested in association with the base quality version of the program, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 6, lines 15-40, lines 53-67, col. 7, lines 1-3, lines 36-50, col. 9, lines 11-20 and lines 44-57).

As per claim 19, Tillman discloses:

- wherein the process actions of requesting a base quality version of the program and requesting at least one enhancement layer comprises requesting that the data making up each layer be provided in its entirety (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

As per claim 20, Tillman discloses:

- wherein the process action of requesting a base quality version of the program comprises the action of requesting the data making up each layer of the base quality version in sequential, equal-sized, temporally corresponding portions such that the layer portions associated with a time segment at the beginning of the program are requested first, and then the layer portions associated with the next sequential time segment of the program are requested, and so on (col. 9, lines 11-32, lines 44-57 and col. 10, lines 43-56).

As per claim 21, Tillman discloses:

- wherein the process action of requesting the data making up each layer of the base quality version in sequential, equal-sized, temporally corresponding portions comprises the action of requesting said layer portions from as many layers, in the order of their

Art Unit: 2157

position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 9, lines 11-32, lines 44-57 and col. 10, lines 43-56).

As per claim **22**, Tillman discloses:

- wherein the process action of requesting at least one enhancement layer of the program comprises the action of requesting the data making up each enhancement layer in sequential, equal sized, temporally corresponding portions such that the layer portions associated with time segment at the beginning of the program are requested first, and then the layer portions associated with the next sequential time segment of the program are requested, and so on (col. 9, lines 11-32, lines 44-57 and col. 10, lines 43-56).

As per claim **23**, Tillman discloses:

- wherein the process action of requesting the data making up each enhancement layer in sequential, equal-sized, temporally corresponding portions, comprises the action of requesting said enhancement layer portions from as many enhancement layers, in the order of their position in the hierarchy starting with the layer next higher in the hierarchy from the highest level layer requested in association with the base quality version of the program, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 9, lines 11-32, lines 44-57 and col. 10, lines 43-56).

As per claim **24**, Tillman discloses:

- wherein the length of each time segment of the program is matched to the rate at which the available bandwidth varies on the network such that each time segment is short

Art Unit: 2157

enough that the network bandwidth does not vary significantly over the period (col. 5, lines 46-67, col. 6, lines 1-6 and lines 14-40) .

As per claim 25, Tillman discloses a client-server based computer network for obtaining progressively higher quality versions of an audio and/or video program, comprising:

- a client comprising at least one general purpose computing device (col. 4, lines 31-36 and lines 54-57); and
- a computer program comprising program modules executable by the client, wherein the client is directed by the program modules to (col. 12, lines 29-34)
- receive an instruction from a user to provide the program for viewing (col. 4, lines 31-36)
- request a base quality version of the program from a server over the network, wherein the base quality version of the program comprises at least a base layer of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21),
- receive and cache the requested layer data associated with the base quality version of the program (col. 7, lines 36-50),
- render the base quality version of the program as the requested data is received and present it to the user (col. 9, lines 11-20 and lines 44-57),
- determining if the user directs that a higher quality version of the program be provided for viewing (col. 7, lines 36-50),
- whenever it is determined that the user has directed a higher quality version of the program to be provided (col. 7, lines 36-50),

Art Unit: 2157

- request at least one enhancement layer of the layered unicast from the server over the network (col. 7, lines 36-50, col. 8, lines 13-16 and col. 9, lines 11-20),
- receive and cache the requested enhancement layer data (col. 9, lines 11-20, lines 58-67, and col. 10, lines 1-7),
- combine the requested Enhancement layer data with the previously cached layer data associated with the base quality version of the program as it is received to produce the higher quality version of the program, and render the higher quality version of the program from the combined layer data and present it to the user (col. 9, lines 11-20 and lines 44-57).

However, Tillman does not explicitly disclose:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network.

Kim discloses a scalable audio coding/decoding method and apparatus including:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network

Art Unit: 2157

comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 2, lines 57-67, col. 3, lines 64-67, col. 4, lines 1-30, col. 6, lines, col. 9, lines 35-67, col. 10, lines 1-4, lines 56-67 and col. 11, lines 1-13).

Given the teaching of Kim, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman by including a scalable audio coding/decoding method to allow users to request many layers of audio/video data without exceeding the available bandwidth in order to satisfy the users' request and to provide a good audio quality bit streams by combining information for bit rates of various layers in a bit stream without being overlapped.

As per claim **26**, Tillman further discloses:

- determining if the user directs that the presentation of the base quality version of the program be terminated (col. 10, lines 57-67 and col. 11, lines 15);
- whenever it is determined that the user has directed that the presentation of the base quality version of the program be terminated, terminating said presentation (col. 10, lines 57-67 and col. 11, lines 15).

As per claim **27**, Tillman discloses a computer-readable medium having computer-executable instructions for obtaining progressively higher quality versions of an audio and/or video program over a network, said computer-executable instructions comprising:

Art Unit: 2157

- requesting a base quality version of the program, wherein the base quality version of the program comprises at least a base layer of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21);
- receiving and caching the requested layer data associated with the base quality version of the program (col. 7, lines 36-50);
- rendering the base quality version of the program as the requested data is received and presenting it to the user (col. 9, lines 11-20 and lines 44-57);
- upon a user directing that a higher quality version of the program being provided, requesting at least one enhancement layer of the layered unicast from the server over the network (col. 7, lines 36-50);
- receiving and caching the requested enhancement layer data (col. 7, lines 36-50, col. 8, lines 13-16 and col. 9, lines 11-20);
- combining the requested enhancement layer data with the previously cached layer data associated with the base quality version of the program as it is received to produce a higher quality version of the program (col. 9, lines 11-20 and lines 44-57); and
- rendering the higher quality version of the program from the combined layer data and presenting it to the user (col. 9, lines 11-20, lines 44-67 and col. 10, lines 1-7).

However, Tillman does not explicitly disclose:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network

Art Unit: 2157

comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network.

Kim discloses a scalable audio coding/decoding method and apparatus including:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 2, lines 57-67, col. 3, lines 64-67, col. 4, lines 1-30, col. 6, lines, col. 9, lines 35-67, col. 10, lines 1-4, lines 56-67 and col. 11, lines 1-13).

Given the teaching of Kim, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman by including a scalable audio coding/decoding method to allow users to request many layers of audio/video data without exceeding the available bandwidth in order to satisfy the users' request and to provide a good audio quality bit streams by combining information for bit rates of various layers in a bit stream without being overlapped.

As per claim 30, Tillman discloses a computer-implemented process for providing progressively higher quality versions of an audio and/or video program over a client-server based network, comprising a server computer performing the process actions of:

Art Unit: 2157

- providing a base quality version of the program to a client computer over the network, wherein the base quality version of the program comprises at least a base layer of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21); and
- providing at least one enhancement layer of the layered unicast to the client over the network without also providing any layer of the base quality version of the program (col. 10, lines 57-67 and col. 11, lines 1-15).

However, Tillman does not explicitly disclose:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network.

Kim discloses a scalable audio coding/decoding method and apparatus including:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without

Art Unit: 2157

exceeding the available bandwidth of the network (col. 2, lines 57-67, col. 3, lines 64-67, col. 4, lines 1-30, col. 6, lines, col. 9, lines 35-67, col. 10, lines 1-4, lines 56-67 and col. 11, lines 1-13).

Given the teaching of Kim, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman by including a scalable audio coding/decoding method to allow users to request many layers of audio/video data without exceeding the available bandwidth in order to satisfy the users' request and to provide a good audio quality bit streams by combining information for bit rates of various layers in a bit stream without being overlapped.

As per claim **31**, Tillman discloses:

- wherein the process action of providing a base quality version of the program comprises the action of providing the data making up each layer of the base quality version in sequential, equal-sized, temporally corresponding portions such that the layer portions associated with a time segment at the beginning of the program are provided first, and then the layer portions associated with the next sequential time segment of the program are provided, and so on (col. 9, lines 11-32, lines 44-57 and col. 10, lines 43-56).

As per claim **32**, Tillman discloses:

- wherein the process action of providing at least one enhancement layer of the program comprises the action of providing the data making up each enhancement layer in sequential, equal-sized, temporally corresponding portions such that the layer portions associated with time segment at the beginning of the program are provided first, and

Art Unit: 2157

then the layer portions associated with the next sequential time segment of the program are provided, and so on (col. 9, lines 11-32, lines 44-57 and col. 10, lines 43-56).

As per claim 33, Tillman discloses a client-server based computer network for providing progressively higher quality versions of an audio and/or video program, comprising:

- a server comprising at least one general purpose computing device (col. 5, lines 13-24); and
- a computer program comprising program modules executable by the server, wherein the server is directed by the program modules to (col. 11, lines 25-34),
- upon a first request from a client computer over the network to provide the program, provide a base quality version of the program to a client computer over the network, wherein the base quality version of the program comprises at least a base layer of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21), and
- upon a subsequent request from a client computer over the network to provide a higher quality version of the program, providing at least one enhancement layer of the layered unicast to the client over the network without also providing any layer of the base quality version of the program (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

However, Tillman does not explicitly disclose:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network

Art Unit: 2157

comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network.

Kim discloses a scalable audio coding/decoding method and apparatus including:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 2, lines 57-67, col. 3, lines 64-67, col. 4, lines 1-30, col. 6, lines, col. 9, lines 35-67, col. 10, lines 1-4, lines 56-67 and col. 11, lines 1-13).

Given the teaching of Kim, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman by including a scalable audio coding/decoding method to allow users to request many layers of audio/video data without exceeding the available bandwidth in order to satisfy the users' request and to provide a good audio quality bit streams by combining information for bit rates of various layers in a bit stream without being overlapped.

As per claim 34, Tillman discloses a computer-readable medium having computer-executable instructions for providing progressively higher quality versions of an audio

Art Unit: 2157

and/or video program over a client-server based network, said computer-executable instructions comprising:

- providing a base quality version of the program to a client computer over the network, wherein the base quality version of the program comprises at least a base layer of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21); and
- providing at least one enhancement layer of the layered unicast to the client over the network without also providing any layer of the base quality version of the program, wherein the at least one enhancement layer is a layer capable of being combined with the layer or layers of the base quality version of the program previously provided to produce said higher quality version of the program (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

However, Tillman does not explicitly disclose:

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network.

Kim discloses a scalable audio coding/decoding method and apparatus including:

Art Unit: 2157

- having hierarchically related layers in that the lowest level layer is a base layer and each subsequently higher level layer adds enhancing information for enhancing the quality of the program that can be rendered from the layers preceding it in the hierarchy, and wherein requesting a base quality version of the program from a server over the network comprises requesting as many layers in the order of their position in the hierarchy starting with the base layer, as can be transmitted from the server to the client without exceeding the available bandwidth of the network (col. 2, lines 57-67, col. 3, lines 64-67, col. 4, lines 1-30, col. 6, lines, col. 9, lines 35-67, col. 10, lines 1-4, lines 56-67 and col. 11, lines 1-13).

Given the teaching of Kim, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman by including a scalable audio coding/decoding method to allow users to request many layers of audio/video data without exceeding the available bandwidth in order to satisfy the users' request and to provide a good audio quality bit streams by combining information for bit rates of various layers in a bit stream without being overlapped.

3. Claims **28-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tillman in view of Kim and in further view of Chaddha (U.S. Pat. No. 6,266,817).

As per claim **28**, Tillman in view of Kim discloses a process of using a computing device to provide progressively higher quality versions of an audio and/or video program over a client-server based network, comprising a server computer performing the process actions of:

Art Unit: 2157

- upon a first request from a client computer over the network to provide the program, providing a base quality version of the program to the client over the network, wherein the base quality version of the program comprises at least a base layer of a layered unicast (abstract, col. 2, lines 47-59, col. 4, lines 54-57, col. 5, lines 25-44, col. 6, lines 14-22 and col. 10, lines 10-21); and
- upon a subsequent request from a client computer over the network to provide a higher quality version of the program (col. 7, lines 36-50, col. 9, lines 11-20 and lines 44-57).

However, Tillman in view of Kim does not explicitly disclose:

- requesting payment of a prescribed fee,
- providing at least one enhancement layer of the layered unicast to the client over the network upon payment of the prescribed fee.

Chaddha discloses a decoder for a software-implemented end-to-end scalable video delivery system including:

- requesting payment of a prescribed fee (col. 12, lines 7-17); and
- providing at least one enhancement layer of the layered unicast to the client over the network upon payment of the prescribed fee (col. 12, lines 7-17).

Given the teaching of Chaddha, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman in view of Kim by including a payment for services plan allowing a user to pay for a given service received from the service in a timely and efficient manner.

As per claim 29, Tillman in view of Kim discloses the invention substantially as claims discussed above.

Art Unit: 2157

However, Tillman in view of Kim does not explicitly disclose:

- wherein the process action of requesting payment of the prescribed fee is performed only upon a first request from a client computer over the network to provide a higher quality version of the program, and is not repeated thereafter.

Chaddha discloses a decoder for a software-implemented end-to-end scalable video delivery system including:

- wherein the process action of requesting payment of the prescribed fee is performed only upon a first request from a client computer over the network to provide a higher quality version of the program, and is not repeated thereafter (col. 12, lines 7-17).

Given the teaching of Chaddha, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tillman in view of Kim by including a payment for services plan allowing a user to pay for a given service received from the service in a timely and efficient manner.

Response to Arguments

4. Applicant's arguments with respect to claims 1-16 and 18-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShonda T. Jacobs whose telephone number is 703-305-7494.

The examiner can normally be reached on 8:30 AM - 5:00 PM.

Art Unit: 2157


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShonda T. Jacobs
Examiner
Art Unit 2157

ltj
December 13, 2004


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100